

**DEPARTMENT OF TRANSPORTATION**

DIVISION OF ENGINEERING SERVICES

Office of Structural Materials

Quality Assurance and Source Inspection



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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:**Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-013071**Date Inspected:** 06-Apr-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Mr. Zhu Tian Shu**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Orthotropic Box Girder( OBG)**Summary of Items Observed:**

This CALTRANS OSM Quality Assurance Inspector (QA) Surendra Prabhu was present during the times noted above for observations relative to the fabrication of the Self Anchored Suspension (SAS) Superstructure being performed by Zhenhua Port Machinery Company (ZPMC) at Changxing Island, in Shanghai, China. QA observed and/or found the following:

This QA Inspector observed the following work in progress:

**BAY-1 -TRAVELER RAIL (TR)**

Flux Cored Arc Welding (FCAW) welding of weld joint 20TR1-033-003. Welder is identified as 215397. ZPMC Quality Control (QC) is identified as Mr. Xiang Feng Feng. The welding variables recorded by QC appeared to comply with the Applicable WPS: WPS-B-T-2231-TC-U5-F.

This QA Inspector observed ZPMC Personnel's performing grinding for the TR weld back gouged area. The TR Numbers are review as 20TR1-037~040.

**BAY-2-FLOORBEAM (FB)**

Submerged Arc Welding (SAW) welding of weld joint FB3185-001-002. Welder is identified as 045265. ZPMC Quality Control (QC) is identified as Mr. Zhulin. The welding variables recorded by QC appeared to comply with the Applicable WPS: WPS-B-T-2221-B-L2c-S-2.

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SAW welding of weld joint FB3186-001-007. Welder is identified as 250050. ZPMC Quality Control (QC) is identified as Mr. Zhulin. The welding variables recorded by QC appeared to comply with the Applicable WPS: WPS-B-T-2221-B-L2c-S-2.

FCAW welding of weld joint FB3202-001-001. Welder is identified as 045209. ZPMC Quality Control (QC) is identified as Mr. Zhulin. The welding variables recorded by QC appeared to comply with the Applicable WPS: WPS-B-T-2231-B-U2a-F-1.

FCAW welding of weld joint FB3233-001-022. Welder is identified as 045209. ZPMC Quality Control (QC) is identified as Mr. Zhulin. The welding variables recorded by QC appeared to comply with the Applicable WPS: WPS-B-T-2231-B-U2a-F-1.

FCAW welding of weld joint FB3191-001-004. Welder is identified as 045209. ZPMC Quality Control (QC) is identified as Mr. Zhulin. The welding variables recorded by QC appeared to comply with the Applicable WPS: WPS-B-T-2231-B-U2a-F-1.

FCAW welding of weld joint FB3192-001-003. Welder is identified as 045209. ZPMC Quality Control (QC) is identified as Mr. Zhulin. The welding variables recorded by QC appeared to comply with the Applicable WPS: WPS-B-T-2231-B-U2a-F-1.

This QA Inspector observed ZPMC Tack welder was performing Tack welding by Shielded Metal Arc Welding (SMAW) process for the FB weld joint FB3209-001-048. The tack welder was identified as 207464. ZPMC Quality Control (QC) is identified as Mr. Zhulin. The tack welding was being performed against the Caltrans Engineer approved Welding Procedure Specification (WPS) : WPS-B-P-2112.

This QA Inspector observed ZPMC Tack welder was performing Tack welding by SMAW process for the FB weld joint FB3219-001-002. The tack welder was identified as 045251. ZPMC Quality Control (QC) is identified as Mr. Zhulin. The tack welding was being performed against the Caltrans Engineer approved Welding Procedure Specification (WPS) : WPS-B-P-2112.

This QA observed Inspector ZPMC Personnel's performing Heat Straightening for the Traveler Rail 11TR1-019. The Heat Straightening was being performed against the HSR Report# HSR1 (B)-8160 Rev No: 0. ZPMC Quality Control (QC) is identified as Mr. Zhulin.

During Quality Assurance (QA) random in-process observations of the fabrication of Floor beam FB3164-001, this QA Inspector discovered the following issue:

- During weld back gouging process Base metal (plate) has been gouged at 2 locations near to the weld joint Approximately 8 mm in depth.
- The back gouged weld identified as FB3164-001-004.
- The Base metal thickness to be measured 35 mm.
- The Y locations are approximately 1000 mm and 4000 mm respectively from the plate edge.
- These both plates are designated as Seismic Performance Critical Member (SPCM) on the approved drawing.
- ZPMC QC and American Bridge/Fluor (AB/F) will take the approval from the Caltrans Engineer to

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- perform the base metal Repair of these 2 locations by welding.
- The attached photographs provide additional detail.

Applicable reference:

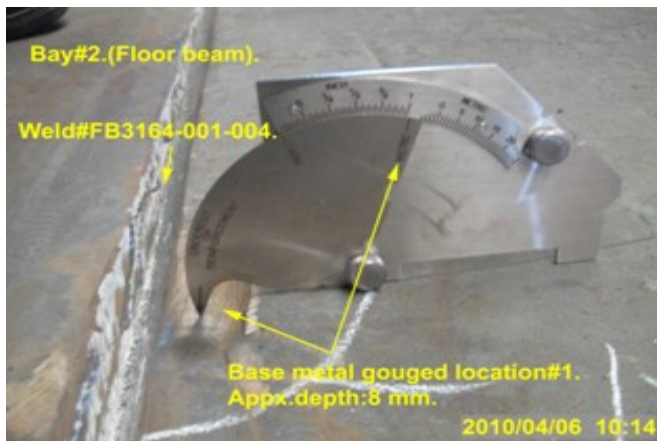
Special Provisions Section 8-3.01: "The Engineer shall be notified immediately in writing when welding problems, deficiencies, base metal repairs, or any other type of repairs not submitted in the WQCP are discovered and also of the proposed repair procedures to correct them. For requests to perform repairs, The contractor shall include an engineering evaluation of the proposed repair."

ZPMC Welding Quality Control Plan, Section 9.2.1.2: "Prior approval of the Engineer shall be obtained for repairs to base metal other than what was identified in Section 9.2.1.1 of this manual and the repair of all other cracks."

AWS D1.5/2002, Section 3.7.4: "Prior approval of the Engineer shall be obtained for repairs to base metal."

This QA notified ZPMC QC identified as Mr. Zhulin and ABF QA Inspector identified as Mr.Wang wen bin of the above issue, and reported to the Team leader.

Unless otherwise noted, all work observed on this date appeared to generally comply with applicable contract documents.

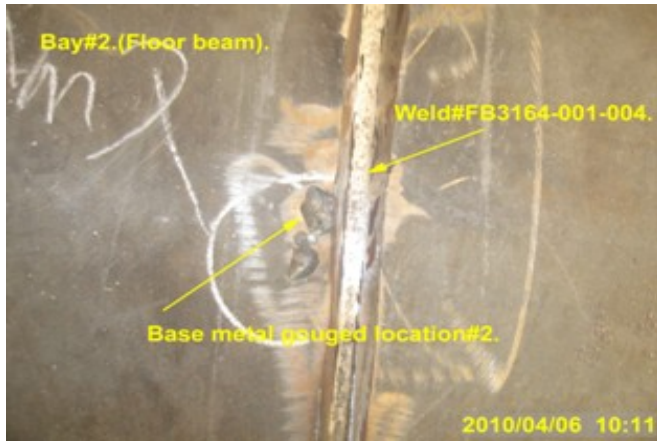


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### Summary of Conversations:

Only general conversation was held between QA and Quality Control (QC) concerning this project.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang 15000422372, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Prabhu,Surendra	Quality Assurance Inspector
<b>Reviewed By:</b>	Miller,Mark	QA Reviewer

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